

January 3, 2006

Ms. Tracy Babbidge
Connecticut Department of Environmental Protection
Bureau of Air Management
79 Elm Street
Hartford, CT 06106-5127

Re: Special Act 05-07 – The Connecticut Clean Diesel Plan

Dear Ms. Babbidge:

Emisstar LLC¹ (hereinafter referred to as “Emisstar”), a mobile emissions consulting company with expertise in air quality policy, diesel emissions control, engine technology, and technical program implementation, is pleased to offer the following general comments to Connecticut Special Act 05-07, The Connecticut Diesel Plan (hereinafter referred to as “The Plan”). We also provide specific comments to the construction sector plan, since we have considerable and timely experience working with this sector as an independent, objective third-party with a number of ongoing programs in the Northeast. Finally, we offer an overview of some successful funding options for Connecticut to consider, given the daunting task of not only securing adequate appropriations for The Plan but ensuring its successful adoption by industry.

General

1. Multi-Pollutant Focus

Instead of focusing primarily on a particulate matter (PM) based emissions reduction strategy, Connecticut Department of Environmental Protection (CT DEP) stands to achieve additional cost effective benefits – especially in light of the 8-hour ozone standards – by adopting a strategy that addresses both PM and nitrogen oxides (NO_x) emissions across the different sectors. For example, retrofit or truck/machine replacement often reduces both NO_x and PM emissions and these reductions, if quantified and verified, may provide valuable credits toward meeting Clean Air Act State Implementation Plan targets. Focusing on both pollutants may also achieve greater public health benefits.

2. Repowering

In addition to retrofits and replacements (accelerated fleet turn-over/modernization), The Plan should consider engine repowering as a viable emissions reduction option. Repowering of nonroad equipment, marine sources, and transit buses has been demonstrated to be a successful, cost-effective emissions reduction method that is usually attractive to end users. Repowering is generally less costly than complete vehicle or nonroad equipment replacement and addresses both PM and NO_x emissions if performed

¹ Please reference the “About Emisstar” companion document for more information about Emisstar.

on the right candidate engines. Repowering is found to be an especially attractive option in sectors where approved retrofit technology is not widely available or is difficult to install, as is the case with nonroad equipment and marine applications. In instances where retrofit technologies are readily available, greater reductions are potentially achievable when a repower is combined with a retrofit device. In some cases, older engines may need to be replaced (repowered) with newer cleaner versions to make any retrofit installation acceptable. In the most recently completed Texas Emission Reduction Plan grant activity, 95% of marine sector activities and 53% of off-road equipment activities were repowers, rather than replacements or retrofits.

3. Cost Effectiveness Calculations

Consider reviewing the cost-per-ton figures cited for NOx reductions in the marine and locomotive sectors. The draft Plan currently tabulates NOx cost effectiveness for marine applications at \$200 per ton. However, it has been our experience with the Texas Emissions Reduction Program (TERP) that such reductions are more likely on the order of \$4,000 per ton of NOx reduced. Since 2002, TERP has funded \$118 Million in locomotive emissions reduction projects, at an approximate cost of \$4,400 per ton with projected NOx reductions of 27 Thousand tons. Marine projects have received \$31 Million in funding, at approximately \$3,700 per ton, with projected reductions of eight thousand tons of NOx.

Construction Sector

1. Emissstar supports the concept of offering construction contract incentives for the use of Tier 4 equipment. Incentives that vary relative to Tier level should be considered for the use of Tier 1 through Tier 3 equipment, as all of these Tiers are significantly cleaner than uncontrolled “Tier 0” equipment. The Texas Department of Transportation has implemented such a multi-tier incentive program for state construction contracts. Similar programs are in development in the cities of Houston and Dallas.
2. Mandating the early use of ULSD in nonroad equipment may not be necessary. The construction market may naturally gravitate towards the early use of ULSD in nonroad equipment, even in the absence of ULSD fuel mandates. Our common experience finds extensive use of on-highway diesel fuel in the nonroad sector. This phenomenon is likely to become more widespread as the on-highway ULSD standard of 15 ppm goes into effect, because refiners will be less likely to invest in refining separate fuels.

Funding

1. While waiving sales tax to encourage the purchase of cleaner equipment is an incentive, it alone is not likely to be enough of an incentive to encourage the early purchase of such equipment and may simply act as a discount for already planned purchases. A

combination of tax incentives, grants and/or loans may be required to truly encourage early fleet turnover.

2. Consider combining no-interest or low-interest loans with other mandatory or voluntary requirements to fund retrofits, repowers, or replacements. For retrofits, this incentive could be especially attractive to end users if the technology offers some other inherent value, such as fuel savings.
3. In addition to other emissions reduction strategies/programs, Emisstar encourages Connecticut to establish and fund a voluntary grant program modeled after the Texas Emissions Reduction Plan or California Carl Moyer grant programs. These programs have innovative funding mechanisms that have resulted in successful diesel emissions reduction programs.
4. In addition to grants, loans, and voluntary incentive programs, Emisstar recommends the consideration of standardized rebate programs, similar in concept to appliance rebate programs. A rebate program has the potential to impose less administrative burdens on the state than grant and loan programs. Simplicity of participation and an expedited refund process are two ways the program may also be more attractive to end users.

Emisstar appreciates this opportunity to provide comments to Special Act 05-07, and looks forward to participating in the future dialogue as this process unfolds.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Block', with a long horizontal line extending from the end of the signature.

Michael Block
Principal